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ANNUAL REPORT

OF THE

CHIEF ENGINEER

OF THE

WATER DEPARTMENT

OF THE

CITY OF WILMINGTON,

FOR 1873.

C. H. GALLAGHER, CHIEF ENGINEER.

PUBLISHED BY AUTHORITY OF THE CITY COUNCIL.

WILMINGTON :
GLATTS & ECKEL, PRINTERS,
510 Market Street, up stairs.
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CITY OF WASHINGTON

1887

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GEORGE A. SELLERS, CHIEF ENGINEER

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REPORT.

To the President and Members of the City Council :

GENTLEMEN :—I have the honor to submit my annual report, as provided by Ordinance “ Re-organizing the Water Department,” and have endeavored to give in detail the expenses and general working of the Department for the year ending December 31, 1873.

The past year has wrought wondrous changes in the City Water Works, and we to-day have the satisfaction of knowing that we are placed beyond the apprehension of a failure in our water supply.

The ice freshet in the Brandywine, which occurred on the afternoon of Sunday, January 5th, 1873, carried away about forty feet of the Coffor Dam. While this accident delayed the finishing of the aqueduct, it really gave but little, if any, additional expense, as the work was readily finished during the low tides in the Summer. This was the only accident or mishap occurring during the progress of the work.

Owing to delays incident to the erection of heavy machinery, and the excessively cold winter of 1872-'73, which occasioned delay and prevented the completion of the building, the new Worthington Pump was not received and put in place until the 24th day of September, at which time the engine was put in service. The City Council and a number of citizens were present at the trial, and expressed themselves highly gratified with the machinery, as well as the general arrangements of the new works.

The Boiler House, adjoining the Pump House on the East, has been finished, and the grounds enclosed to prevent intrusion upon the premises except through the ordinary channel. A light but substantial bridge has been thrown across the race directly in front of the entrance, thus enabling visitors to reach the works by a paved and pleasant route.

A pretty but inexpensive fountain has been attached to the forcing main in the race, near the bridge, which adds to the attractiveness of the place.

The original Pump House, built in 1827, has been put in good order, and presents a very neat appearance. The entire building is heated by steam. The race banks on either side have been sodded, and a hand-rail erected to prevent trespassing.

The expenses of the Department have been much greater than during any former year, owing to the almost complete dilapidation of the old machinery and building, but we believe that the citizens, notwithstanding the large outlay, would not be willing to go back to the old and uncertain state existing previous to the improvements.

Below is a statement of the bills paid for the new works : and in the statement is included the cost of repairs to the old machinery and buildings :

COST OF THE PUMP HOUSE AND MACHINERY.

1872.			
Feb.	1.	Washington Cox, Masonry, - - -	\$123 49
Mar.	28.	E. I. DuPont & Co., Empty Bags - - -	20 00
June	6.	R. H. T. Stileman, two 24 Stops, - - -	680 00
July	13.	John W. Hopkins, work on Coffe Dam, .	93 25
Aug.	8.	E. I. DuPont & Co., Powder and Fuse, -	19 00
	18.	E. C. Stotsenburg & Son, Y Branch and Patterns,	529 02
		J. D. Winslow, Labor on Coffe Dam, -	131 19
Oct.	4.	E. I. DuPont & Co., Powder, Fuse and Bags,	91 00
	16.	Wise & Lane, Lumber, - - -	55 32
	25.	E. Moore, Use of Scow, - - -	15 90
	28.	S. G. Simmons & Bro., Lumber for Coffe Dam,	47 18
Nov.	11.	E. I. DuPont & Co., 200 Gunney Bags, -	40 00
	23.	Lewis Zebbley, Lumber, - - -	164 17
Dec.	6.	Washington Cox, Masonry, Cement, &c., -	794 60
	31.	George W. Bright, Cement, - - -	33 00
		H. R. Worthington, Contract for a Duplex Steam Pump, - - -	37,000 00 .
		J. D. Winslow, Contract for Erecting New Pump House, - - -	9,485 00
1873.			
Jan.		John W. Hawkins, Hauling, - - -	47 75
	13.	E. I. DuPont & Co., 150 Empty Bags, - - -	30 00
		Wode, Feaster & Co., Riggers, - - -	97 00
	27.	P. P. Tyre, Granite Blocks. - - -	120 00
	30.	M. B. Stotsenburg & Co., Tie Rods - - -	72 00
Feb.	13.	J. D. Winslow, Carpenter Work, Fitting up Tin Work, Pump House, - - -	159 29
	18.	Capelle & Bro., 95 Bbls. Cement, - - -	263 75
Mar.		John W. Hawkins, Hauling, - - -	18 25
	4.	Wode, Feaster & Co., Riggers, - - -	139 00
	6.	S. G. Simmons & Bro., Lumber. - - -	21 25
	14.	Joseph C. File, Making and Repairing Tools, -	39 19
	30.	Homer Barry, Rope - - -	17 75

	31.	Joseph C. File, Making and Repairing Tools, -	93 52
April	1.	John Taylor, 1 Square Box Pump, -	14 50
	3.	F. C. Simpson, Repairs, - - -	34 00
	9.	Jackson Sharp Co., Repairing Skiff, -	35 59
	10.	Joseph Flanagan, Stone Copeing, - -	24 00
May	3.	E. C. Stotsenburg & Son, Valve Pipe and Valve, -	293 67
	30.	John W. Hawkins, Hauling, - -	19 25
		H. R. Worthington, 1 No. 5 Steam Pump, -	508 00
		J. D. Winslow, Sundries - - -	46 37
	31.	Springer, Morley & Gause, Rosettes, - -	1 60
June		R. Smith, Foundation Stone, - - -	307 74
	1.	Pusey, Jones & Co., Fitting up Donkey Engine	159 55
	2.	John W. Hawkins, Hauling, - - -	146 80
	3.	B. & B. Heisler, Copper Strainer, -	1 25
		E. I. DuPont & Co., Powder and Fuse -	14 40
	6.	S. Rigby, Coffor Dam, - - -	34 80
	30.	E. I. DuPont & Co., Empty Bags, - - -	60 30
July	1.	S. G. Simmons & Bro., Lumber, - - -	62 35
		George D. Kelley, Lime - - -	8 80
	2.	E. I. DuPont & Co., Powder, Fuse, &c., -	15 00
		Joseph C. File, Making Clamps and Tools -	127 06
	5.	John W. Hopkins, Coffor Dam. &c., -	77 90
	7.	E. I. DuPont & Co., Empty Bags - - -	30 00
	18.	Joseph C. File, Repairing Too's, &c. - -	289 79
		Pusey, Jones & Co., Use of Steam Pump, and Repairing Boilers, &c., - - -	283 93
	20.	S. & A. Feaster, Riggers, - - -	188 25
	25.	Pusey, Jones & Co., Putting up Syphon Pipes, &c.,	157 75
	31.	Washington Cox, Masonry, - - -	171 62
Aug.	3.	Ferris & Garrett, Water and Gas Pipes, -	278 96
	7.	Hewes & Walker, Flagging, - - -	136 62
	22.	H. R. Worthington, 1 Steam Trap, - - -	66 50
	28.	R. Smith, Marble Slab for Donkey, - - -	40 00
Sept.	1.	S. G. Simmons & Bro., Lumber, - - -	128 17
		John C. Curlett, Plastering Pump House -	60 65
	6.	John W. Hopkins, Use of Tools - - -	4 85
	15.	Ferris & Garrett, Gas Pipes and Fixtures -	152 07
	27.	A. Montgomery, Step Ladder, - - -	10 00
	30.	E. C. Stotsenburg & Son, Circular Pipes, -	718 38
		E. I. Dupont & Co., 1000 Empty Bags, -	200 00
		T. Y. DeNormandie, Spittoons, - - -	4 50
		Springer, Morley & Gause, Moulding and Door Frames, - - -	50 96
		William H. Billany, Hardware, - - -	14 00
		E. C. Stotsenburg & Son, Blocks and Patterns.	93 93
Oct.	1.	M. B. Stotsenburg & Co., Rods, Bolts and Washers.	24 43
		Hewes & Walker, Platform and Door Sill, -	99 02

		H. L. Tatnall & Co., Lumber, - - -	94 86
		Flinn & Jackson, Oilers and Tray, - - -	23 00
		James Bradford, Lights, - - -	37 44
		A. T. Alderdice, Wire, - - -	103 99
	2.	Joseph C. File, Repairing Tools, &c., - - -	106 52
		John W. Hawkins, Removing Rubbish, &c., - - -	356 82
	6.	Thomas Webber, Use of Flatt, - - -	45 00
	23.	E. Ainsworth, Covering Steam Pipes, &c., - - -	146 30
		A. Montgomery, Step Ladder, - - -	10 50
	31.	Ferris & Garrett, Fittings, - - -	99 34
Nov.	1.	Capelle & Bro., Cement, - - -	128 50
	8.	Flinn & Jackson, Brass Drips, - - -	19 20
	11.	E. I. DuPont & Co., Powder, Fuse, and Gunney Bags, - - -	48 70
		F. C. Simpson, Heater, Steps, &c., - - -	109 96
	13.	Flinn & Jackson, Brass Drip Pans, - - -	9 40
		Cardwell & Wall, Painting Partition, and Banisters, - - -	83 88
		" " Painting Stone Work, Fences and Bridge, - - -	137 85
		" " Painting Wheel House - - -	36 59
		" " Graining Pump House, - - -	120 40
		James H. Windrim, Architect, - - -	300 00
		Labor, Quarrymen, for Excavating Canal, or Ditch, - - -	3,832 17
		" Employed on New Pump and House, - - -	4,939 55
		J. D. Winslow, Carpenter Work on Pump House, - - -	776 14
Total Cost of New Work, exclusive of Boiler House, - - -			\$66,313 89

COST OF NEW BOILER HOUSE.

1872.			
Nov.	9.	F. C. Simpson, Repairing Stack, - - -	\$198 55
1873.			
Sept.	6.	M. B. Stotsenburg & Co., Boiler House Bolts, - - -	9 45
	18.	John W. Hawkins, Hauling, - - -	178 49
		Washington Cox, Masonry, - - -	81 37
	25.	" " " - - -	150 75
	29.	M. B. Stotsenburg & Co., Rods for Boiler House, - - -	14 77
	30.	Gilmore & Hewes, Lumber for Boiler House, - - -	127 20
Oct.	1.	H. F. Pickels, Conductors, - - -	60 76
		F. C. Simpson, Laying Brick in Boiler House, - - -	230 00
		George D. Kelley, Lime, - - -	4 00
		F. C. Simpson, Sundry Paving, &c., - - -	335 39
		Hewes & Walker, Platform and Door Sills for Boiler House, &c. - - -	99 02
		James H. Beggs, Bricks for Boiler House, - - -	297 50
		" " Paving Bricks, - - -	258 00

		Robert Scott, Sills and Keytones for Boiler House,	15 00
29.		S. & A. Feaster, Riggers,	72 76
Nov.	1.	Haughey & Ferry, Felting Boiler House,	27 30
	4.	Lewis Zebley, Lumber,	115 32
	18.	" " " " " "	14 51
Dec.	11.	Levi Haas, Slating Boiler House and repairs,	416 11
		L. C. Kent, Lumber,	39 77
		Robert Smith, 1 Granite Sill,	6 82
		Springer, Morley & Gause, Mouldings,	22 99
		Hewes & Walker, Steps,	9 25
		Ferris & Garrett, Fixtures,	13 49
		W. H. Billany, Locks, &c.,	7 00
		Cardwell & Wall, Painting Boiler House	61 16
		S. G. Simmons & Bro., Lumber,	25 35
	22.	James H. Windrim, Architect,	100 00
		Gilmore & Hewes, Lumber,	113 73
		J. D. Winslow, Fitting up Boiler House,	900 00
		H. F. Pickels, Spouting, Tin, &c.,	385 06
Total Cost of Boiler House,			<u>\$4,496 87</u>

LIST OF EXPENDITURES OF THE WATER DEPARTMENT,
EXCLUSIVE OF NEW PUMP HOUSE, NEW PUMP AND
BOILER, &c.

1873.			
Jan.	1.	S. Rigby, Repairing Cornish,	\$ 2 40
		John W. Hopkins, Making Gate, &c.,	93 25
		W. R. & H. Gause, Lumber,	13 12
		W. H. Allmond & Bro., Brush, Brooms, &c.,	12 29
		W. H. Billany, Hardware,	4 00
		John Randle, Wood and Coal,	68 00
		D. H. Kent & Co., 167 lbs. Pig Lead,	15 03
		Jenkins & Atkinson, Advertisement "To Water Renters,"	8 16
		James & Webb, Stationery,	9 20
		Wilmington Coal Gas Company, City Mills,	157 20
		" " " Pump House,	4 40
		" " " 10th and King Sts.,	2 20
		" " " 1000 Market St.,	4 40
	2.	A. Mendenhall, Repairing Pump, &c.,	6 63
	9.	Charles Warner, & Co., Coal,	134 71
	21.	R. D. Wood, & Co., 30 Ps. 3 in. Pipes, 9 ft. coated,	113 40
		" " " 1 " 12 in. " 36 ft. "	126 00
		John W. Hawkins, Hauling and Freight,	112 50
	30.	Ferris & Garrett, Fittings, &c.,	2 52
		George W. Stone, Tallow and Oil,	51 75

		Scattergood Allen, 190 lbs. Straw,	-	3 33
		D. H. Kent & Co., Lead,	- - -	37 49
		Wilmington Coal Gas Company, Coke,	-	5 00
Feb.	1.	Springer, Morley & Gause, Plugs,	- - -	2 50
		Charles Warner & Co., Coal,	-	113 86
		Harlan Hollingsworth Co., Making Suc. Pipes, &c.,	-	858 19
	4	Abbott & McKinney, Repairing Machinery,	-	22 42
	7.	Jenkins & Atkinson, Advertisements,	-	17 00
	19.	James & Webb, Ink and Legal Cap,	-	95
	20.	James Miller, 195 lbs. Lead,	- - -	15 60
	27.	Lewis Zebley, Lumber,	- - -	13 52
	28.	D. H. Kent & Co., Lead,	- - -	204 79
		George W. Stone, Tallow,	- - -	7 50
		Ferris & Garrett, Fixtures,	- - -	13 47
Mar.	1.	A. T. Allderdice, Wire Line,	- - -	7 88
		John W. Hawkins, Hauling,	- - -	11 22
		Joseph C. File, Repairing Tools,	-	151 52
	5.	Edward Forrest, Repairing Furnace,	-	26 25
	7.	George W. Stone, Tallow,	- - -	7 50
	11.	R. T. H. Stileman, six Fire Plugs, &c.,	-	221 25
	12.	F. A. Taylor, Postage Stamps,	- - -	5 00
	13.	Charles Warner & Co., Coal,	- - -	155 40
	31.	William H. Billany, Hardware,	- - -	12 76
		Z. Pickels, Lamps, Copper Pan, and Oil,	-	4 12
		Ferris & Garrett, Gas Fixtures,	- - -	6 13
		George W. Stone, Tallow and Packing,	-	12 75
		W. W. Simmons, Repairing over Water Pipe,	-	72 50
		William S. Bullock, Repairing Tools,	-	24 91
		George W. Bush & Son, Freight on thirty Pipes,	-	3 00
April	1.	E. C. Stotsenburg & Son, Iron Castings	- - -	167 21
		C. P. Johnson, Advertisements,	- - -	48 87
		Wilmington Coal Gas Co., Gas at 10th and Market,	-	2 80
		James & Webb, three qrs. Manilla Wraps,	-	1 20
		John Palmer, Oil, &c.,	- - -	15 57
		John Randle, Wood and Coal,	- - -	125 26
		Charles Warner & Co., Freight on Fire Plugs,	-	2 05
		John H. Turner, Coal,	- - -	36 75
		James H. Beggs, Bricks,	- - -	18 20
	3.	Charles Warner & Co., Coal,	- - -	294 99
	21.	Mellerts & Kinsey, twenty-five Ps. 6 in. Pipe,	-	264 38
	24.	Phila., Wil. and Balto. R. R. Co., Freight on Pipes,	-	19 29
	30.	John W. Hawkins, Hauling,	- - -	16 25
		Ferris & Garrett, Fittings and Ferrules	-	44 51
		Mrs. E. Glancy, Hauling,	- - -	12 36
		Electric Line of Steamers, Freight on Iron Plates, &c.	-	4 50
		D. H. Kent & Co., Pig Lead,	- - -	51 78
May	1.	Charles Warner & Co., Coal,	- - -	529 28

		George W. Stone, Tallow and Hose, -	26 90
		John Logue, Hauling, -	33 75
		Jenkins & Atkinson, Printing Duplicate Bills, -	12 50
10.		F. A. Taylor, Postage Stamps, -	5 00
		W. W. Simmons, Repairing Pavement, -	26 34
12.		James Bradford, Varnish and Paint Brush, -	1 63
		Joseph Mellor, Lead, -	5 90
13.		James Bradford, Vermillion and Varnish, -	90
15.		A. T. Allderdice, one bush. Lawn Grass Seed, -	5 25
20.		Edward Forrest, Repairing Boiler Furnace, -	27 43
27.		R. D. Wood & Co., 95 ps. 4 in. Pipes, 12 ft. -	692 87
31.		D. H. Kent & Co., Pig Lead, -	38 43
		Ferris & Garrett, Gauge Glasses and Plugs -	23 40
		John Logue, Hauling, -	15 75
June	1.	Charles Warner & Co., Coal, -	158 56
	2.	George W. Stone, Oil. Tallow and Packing, -	61 45
	3.	Abbott & McKinney, Bolts, Nuts and Washers, -	18 10
	6.	George W. Stone, Hose and Couplings, -	8 75
18.		James H. Beggs, Paving Bricks, -	3 60
19.		Charles Warner & Co., Coal, -	528 64
		R. D. Wood & Co., 318 ps. 4 in. Pipes, -	2308 51
21.		J. D. Winslow, Putting up Fence Upper Basin -	67 83
30.		D. H. Kent & Co., Pig Lead, etc., -	31 26
		John V. Rice & Co., Cast Pipes, etc., -	47 03
		E. C. Stotsenburg & Son, Cast Pipes, etc., -	37 06
		James H. Beggs, Bricks, -	2 70
		George W. Stone, Tallow, Emery Cloth, etc., -	28 27
		Pusey, Jones & Co., Work on Cast Front, -	7 96
		William S. Bullock, Repairing Tools, -	15 95
		Ferris & Garrett, Ferrules, Hose Ells, etc., -	42 63
		Joseph C. File, Repairing Tools, -	93 52
		Washington Cox, Masonery, -	358 49
		George W. Bush & Son, Freight on 413 Pipes, -	41 30
31.		George W. Dorsey, Stove Pipes, etc., -	27 50
July	1.	John H. Turner, Fire Brick and Coal, -	16 75
		James & Webb, Stationery, -	6 88
		Cardwell & Wall, Glass, Painting and Paint, -	6 65
		John Palmer, Hardware, Oil, etc., -	6 04
		Charles Warner & Co., Cumberland Coal, -	139 71
		“ “ “ Freight on Stop-cock, etc., -	4 68
		Z. Pickels, Lamps, Oil Buckets, etc., -	3 75
		Wilmington Coal Gas Co., Gas at Mill, -	12 40
		“ “ “ “ Pump House, -	1 80
		“ “ “ “ 10th and Market, -	80
		William H. Billany, Hardware, -	30 27
		George Zeigler, Clay, -	6 00
		John Randle, Pine Wood, -	15 75

		Abbott & McKinney, Repairing Fire Plugs.	3 50
	9.	R. D. Wood & Co., 253 ps. 4 in. Pipes, 12 ft. -	1818 30
	14.	David Woolman, Barrow, Picks, etc., -	29 00
	18.	R. T. H. Stileman, six 4 in. Stop-cocks, -	191 25
	24.	Charles Warner & Co., Cumberland Coal,	385 58
	25.	Electric Line of Steamers, Freight on Boxes, etc.	12 25
		“ “ “ “ “ “ “ “	75
		L. W. Stidham & Son, calling Sale of Frame House,	5 00
	26.	R. T. H. Stileman, seven 4 in. Stop-cocks, -	192 50
	31.	D. H. Kent & Co., Pig Lead, - -	127 40
		John W. Hawkins, Hauling, - -	92 69
		Pusey, Jones & Co., Repairing Pump, -	27 62
		James Morrow, two Brooms, - -	1 70
Aug.	1.	George W. Stone, Tallow, Waste and Oil,	45 06
	6.	Electric Line of Steamers, Freight on two ps. Pipes,	1 55
		W. W. Simmons, Repairing Pavement, -	23 17
		J. D. Winslow, Interest on Notes, - -	128 75
	9.	R. T. H. Stileman, four 4 in. Stop-cocks, -	110 00
	12.	Edward Forrest, Repairing Furnace, -	11 75
	13.	Electric Line of Steamers, Freight on Box, -	1 50
	16.	R. T. H. Stileman, six Fire Plugs and Cases,	210 00
	18.	F. A. Taylor, Expressage, Stamps and Cards, -	17 85
	19.	R. T. H. Stileman, four Fire Plugs and Cases,	140 00
	20.	James H. Beggs, Hard Bricks, - -	2 70
		Electric Line of Steamers, Freight on Pipes,	3 98
		R. D. Wood & Co., eighteen 3 in. Pipes, 9 ft.	58 33
	21.	Gawthrop & Bro., Union Ell, etc., etc., -	9 28
	25.	Electric Line of Steamers, Freight on Box and Valve,	8 05
	26.	William A. Torrey & Co., twenty-four Valves,	89 76
	29.	Electric Line of Steamers, Freight on Packages,	50
	30.	George W. Stone, Oil, Packing and Tallow, -	78 63
Sept.	1.	Edward Hoopes, Lead, - - -	129 60
		David Woolman, Picks, etc., - - -	72 00
		Charles Warner & Co., Coal, - - -	549 98
	2.	Abbott & McKinney, Repairing Tools, -	17 75
	3.	Electric Line of Steamers, Freight on Pipes,	50
	9.	Leonard & Ellis, one bbl. Cylinder Oil, -	57 50
	11.	W. W. Simmons, Repairing Pavement, -	38 50
	12.	Electric Line of Steamers, Freight on bbl. Oil, -	75
	15.	“ “ “ “ “ on ps. Pipe	1 25
	17.	Joseph Mellor, Lead, - - -	15 84
	18.	R. T. H. Stillman, four 4 in. Stop-cocks.	110 00
	25.	Lewis Zebley, Lumber, - - -	8 56
		Haughy & Ferry, Felting Engine House Tenth and Market, - - -	78 60
	30.	D. H. Kent & Co., Pig Lead, - - -	5 42
		Homer Barry, six cans Concentrated Lye,	1 50

Sept.	30.	William S. Bullock, Repairing Tools.	-	42	40
		Adam Grubb & Co., Powder and Fuse.	-	3	30
		E. C. Stotsenburg & Son, Iron Castings.	-	950	07
		William H. Billany, Hardware,	-	66	64
		Ferris & Garrett, Fittings.	-	211	15
Oct.	8.	Patrick Megarrity, Chestnut Coal,	-	106	73
	9.	John Palmer, Oil. Brooms. etc.,	-	15	08
	15.	Charles Warner & Co., Coal,	-	539	29
	17.	Harlan & Hollingsworth Co., Repairing Machinery, etc.,	-	2295	32
	21.	R. T. H. Stillman, three 4" Stop-cocks,	-	82	50
	27.	Electric Line of Steamers. Freight on Box,	-	1	00
	28.	Walton & James. Ice,	-	11	51
	29.	S. & A. Feaster. Riggers,	-	72	76
	31.	Abbott & McKinney, Repairing Fire Plugs, etc.,	-	27	20
		Charles Warner & Co., Coal,	-	491	42
		John W. Hawkins, Hauling.	-	72	50
		James & Webb. Stationery,	-	17	96
		Z. Pickels. Oil Buckets, Lamps. etc.,	-	14	57
		Remington. Bayley & Co., Repairing Reamer,	-	50	
		George W. Stone, Packing, Tallow, etc.,	-	46	80
		Charles Warner & Co., Freight on Stop-cocks,	-	45	27
		George W. Bush & Son, Freight on Pipes, etc.,	-	2	07
		John Randle, Wood, etc.,	-	49	50
		Edward W. Hoopes, Lead.	-	98	28
		Charles Warner & Co., Coal,	-	479	85
		John H. Turner, Fire Bricks,	-	5	50
		Wilmington Coal Gas Co., Gas in Pump House,	-	7	40
Nov.		" " " " Tenth and Market,	-	1	60
		" " " " Mill,	-	46	00
		Abbott & McKinney. Repairing Fire Plugs, etc.,	-	10	33
		Victor DuPont, Professional services.	-	300	00
	1.	John V. Rice & Co., Stop-cover and Sleeve.	-	54	63
		Jenkins & Atkinson, Advertisements,	-	3	15
	5.	George W. Stone. Oil. Packing and Tallow,	-	43	33
		R. D. Wood & Co., lot of Pipes,	-	531	90
	12.	Patrick Megarrity, Coal,	-	30	59
	13.	S. Allen, Straw,	-	6	43
	15.	" " " " " "	-	9	55
	22.	F. A. Taylor, Postage Stamps,	-	5	00
Dec.	29.	John T. Simmons, Repairing Pavement,	-	50	29
		John W. Hawkins, Hauling.	-	59	93
		William H. Billany, Hardware,	-	46	07
	1.	George W. Stone, Oil. Waste. Tallow and Packing	-	21	96
		H. W. Gause, Oak Lumber.	-	42	04
	3.	Harlan & Hollingsworth Co., Repairing Machinery,	-	557	97
	4.	Edward W. Hoopes, Lead and Hardware,	-	146	94

Dec.	8.	S. Allen, Straw,	-	-	-	5 02
		Gilmore & Hewes, Lumber,	-	-	-	12 01
		John W. Hopkins, Repairing Stop,	-	-	-	51 54
	10.	William H. Foulk, Repairing Dormers, etc.,	-	-	-	49 49
	12.	R. T. H. Stillman, one 6" Stop-cock,	-	-	-	42 50
	15.	Leonard & Ellis, one bbl. Valvoline Cylinder Oil,	-	-	-	56 88
	20.	S. Allen, three hundred and sixty-two pounds of Straw,	-	-	-	5 43
	22.	W. W. Simmons, Repairing Streets,	-	-	-	14 18
	31.	John W. Hawkins, Hauling,	-	-	-	34 31

Amount of Expenditures of the Water Department, exclusive of new Pump House, new Pump, and new Boiler House, - \$22,602 70

EXTENSION OF PIPES.

SIX INCH PIPES.

Thorn street, below Water street,	-	305 feet.
Lobdell Car Wheel Company, Lobdell Yard,	-	110 "
		415

FOUR INCH PIPES.

Tatnall street, between Second and Front streets,	164	"
Washington street, between Twelfth and Thirteenth,	62	"
Twelfth street, between Washington and Jefferson,	218	"
Washington street, between Ninth and Tenth streets,	143	"
Fourth street, between Washington and Jefferson sts.,	343	"
Monroe street, between Fourth and Fifth streets,	285	"
Carpenter street, between Monroe and Adams streets,	352	"
Third street, between Monroe and Adams streets,	149	"
Jackson street, between Linden and Maple streets,	325	"
Adams street, between Second and Third streets,	243	"
Third street, between Harrison and Franklin streets,	170	"
Van Buren street, between Elm and Chestnut streets,	252	"
Chestnut street, between Van Buren and Franklin sts.,	339	"
Reed street, between Van Buren and Franklin streets,	715	"
Front street, below Broom street,	142	"
Fourth street, between Broom and Harrison streets,	882	"
Seventh street, between Adams and Jackson streets,	122	"
Third street, between Walnut and Poplar streets,	401	"
Curlett street, between Spruce and Pine streets,	61	"
Spruce street, between Ninth and Eighth streets,	436	"
Spruce street, between Ninth and Tenth streets,	221	"
Twelfth street, between Lombard and Pine streets,	166	"
Lombard street, between Eleventh and Twelfth sts.,	29	"

Wilson street, between Thirteenth and Fourteenth, sts.	357	feet.
Walnut street, between Thirteenth and Fourteenth sts.,	213	"
Walnut street, between Eleventh and Twelfth streets,	269	"
Eleventh street, between Walnut and French streets,	182	"
French street, between Ninth and Tenth streets,	267	"
French street, between Thirteenth and Fifteenth sts.,	529	"
Shallcross avenue, between Van Buren and Adams sts.	380	"
Chippey street, between Eleventh and Twelfth sts.,	356	"
Thorn street, below Water street,	112	"
Front street, in Pusey, Jones & Co's Yard,	50	"

 8,935

THREE INCH PIPES.

Thorn street, below Water street,	-	-	270	"
Total number of feet laid during the year.			9,620	
" " " now laid in the city,			177,822	

FIRE PLUGS ERECTED DURING THE YEAR 1873.

1	Fire Plug corner	Thirteenth and Washington streets.
1	" " "	Fourteenth and Wilson
1	" " "	Fourteenth and French
1	" " "	Twelfth and Lombard
1	" " "	Eleventh and Walnut
1	" " "	Ninth and Spruce
1	" " "	Eighth and Van Buren
1	" " "	Fourth and Franklin
1	" " "	Van Buren and Chestnut
1	" " "	Harrison and Chestnut
1	" " "	Elm and Maryland avenue,
1	" " "	French, between Third and Fourth
3	" " "	in Thorn, below Water
1	" " "	in Lobdell's Yard.
1	" " "	in Pusey, Jones & Co's Yard.

 17

STOPS PUT IN DURING THE YEAR 1873.

1	Stop corner	Twelfth and Washington	streets,
1	" " "	Ninth and Washington	"
1	" " "	Fourth and Washington	"
1	" " "	Fourth and Jefferson	"
1	" " "	Fourth and Monroe	"
1	" " "	Fourth and Broom	"
1	" " "	Third and Walnut	"
1	" " "	Third and Poplar	"
1	" " "	Front and Broom	"

1	Stop corner	Front and Lombard	streets.
1	"	Carpenter and Adams	"
1	"	Jackson and Linden	"
1	"	Van Buren and Elm	"
1	"	Van Buren and Chestnut	"
1	"	Chestnut and Harrison	"
1	"	Van Buren and Reed	"
1	"	Harrison and Reed	"
1	"	Shallcross avenue and Van Buren	"
1	"	Spruce and Eighth	"
1	"	Spruce and Taylor	"
1	"	Spruce and Ninth	"
1	"	Twelfth and Lombard	"
1	"	Thirteenth and Wilson	"
1	"	Thirteenth and Walnut	"
1	"	Eleventh and Walnut	"
1	"	Tenth and French	"
1	"	Fourteenth and French	"
1	"	Twelfth and Chippey	"
6	"	in Thorn street, below Water	"
1	"	in Lobdell's Yard,	

35

The following table shows the number of gallons of water supplied to the city each month of the year, and the daily average:

January, - - -	39,928,000	July, - - -	63,400,000
February, - - -	34,720,000	August, - - -	63,736,000
March, - - -	44,392,000	September, - - -	60,028,800
April, - - -	47,280,000	October, - - -	56,833,600
May, - - -	54,808,000	November, - - -	52,740,000
June, - - -	59,520,000	December, - - -	49,400,000

First six months,	280,648,000	Last six months,	346,138,400
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Total during the year 1873,	-	626,786,400	gallons.
The Cornish Pump supplied		186,864,000	"
The Water Pumps supplied		365,660,000	"
The Worthington Steam Pump supplied		74,262,400	"
Increase over the year 1872,		7,373,800	"
Daily average through the year,		1,717,223	"
" " month of August.	-	2,056,000	"
" " first six months,		1,550,541	"
" " last six months,		1,881,187	"
" " per head, population,		57	"

Number of gallons pumped from the Reservoir at Tenth and Market streets to Reservoir at Eighth and Rodney streets:

January,	7,819,000	July,	9,880,000
February,	7,120,000	August,	11,714,000
March,	9,828,000	September,	7,771,000
April,	9,126,000	October,	6,120,000
May,	10,712,000	November,	4,984,000
June,	10,562,000	December,	4,608,000

First six months,	55,167,000	Last six months,	45,077,000
Total for the year,			100,244,000 gallons.
Increase over the year 1872,			209,000 "
Daily average,			320,268 "

The number of private dwellings, stores, manufacturing establishments, etc., etc., to which Brandywine water is now distributed, is

Number of permits issued during the year.	559
" " new tenants.	356
" " now registered,	3,501

The permits embrace the following items:

Dwellings,	334	Hotel,	1
Baths,	68	Fountains,	3
Wash Paves,	66	Circuses,	4
Water Closets	74	Drinking Saloons,	9
Wash Basins,	114	Factories,	5
Bidetts,	1	Foundry,	1
Stables,	12	Club Stables,	2
Stores,	7	Drug Stores,	2
Banks and Saving Fund,	2	Church,	1
Steam Engine,	1	Public School,	1
Offices,	3	Rolling Mill,	1

SUMMARY OF AMOUNT RECEIVED DURING THE YEAR 1873:

Water Rent Due January, 1873,	\$43,093 41
" " Fractional,	926 64
" " Protection Tax,	72 00
Sale of Old Material, Rent of City Mill, etc.,	440 97
Penalties,	143 67
Ferrules,	634 00
New Pipe Laid,	831 89
	<hr/>
	\$46,142 58

Increase over the year 1872, \$3,005 42

Of the above amount \$3,092 91 was collected

December, 1872.

The whole amount received on account of Water Rents, Water Tax, and Water Protection Tax for the year 1874, up to January, is as follows :

Dec. 1873,	-	-	-	-	-	\$ 2,022 00
Leaving uncollected about	-	-	-	-	-	47,000 00
Probable revenue for the year,	-	-	-	-	\$50,000	

EXPENDITURES.

Extension of Pipe,	-	-	-	-	-	\$13,159 79
Machinery,	-	-	-	-	-	13,972 73
Distribution,	-	-	-	-	-	9,311 98
Salary,	-	-	-	-	-	2,500 00
Incidentals,*	-	-	-	-	-	12,238 17
						<hr/> \$51,182,67

This does not include amounts paid by contract.

STOCK OF FIRE PLUGS, PIPES, STOPS, ETC., ON HAND DECEMBER 31, 1873.

PIPES.

126 feet	4"	Cast Iron Water Pipes.
36 "	3"	" " " "
27 "	6"	" " " "
132 "	16"	" " " "
204 "	10"	" " " "
16 "	36"	" " " "

FIRE PLUGS.

3 New Fire Plugs,
4 Second-hand Fire Plugs.

STOPS.

2 4" Stops,	2 8" Stops.
2 4" Stops, (old)	1 16" Stop.

STOP COVERS.

6 Stop Covers.

FIRE PLUG BRANCHES.

12 Four Way Branches,
13 Fire Plug Branches.

REDUCERS.

4 8" Reducers.

* This item includes expenses of building new Boiler House, and other expenses, which cannot be charged to either of the other headings.

SLEEVES.

5 8" Sleeves.
3 4" "

7 3" Sleeves.
2 10" "

7 16" Sleeves.

BENDS.

3 10" Bends,

2 6" Bends.

CAPS.

52 pounds 6" Caps,

29 pounds 4" Caps.

16 pounds 3" Caps.

4,480 lbs. Old Pipes, Fire Plugs, &c.

In conclusion, I would earnestly advise prompt action in the construction of a new Reservoir, on the site selected. The time required to build a Reservoir of this size would be from two to three years; and until it is constructed, the water must continue to be used without settling. If steps are at once taken towards the attainment of this object, work upon it could hardly be commenced before the first of June.

To the officers and employees of the Water Department generally I am indebted for the very faithful manner in which they have discharged their respective duties.

Respectfully submitted,

C. H. GALLAGHER,

CHIEF ENGINEER.

